



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, Colorado 80215

ES/CO: T&E/PMJM  
Mail Stop 65412

February 1, 2000

To whom it may concern:

Re: Guidance on Ditch Maintenance Activities

The U.S. Fish and Wildlife Service (Service) is issuing the following Guidance Letter (Guidance) on water conveyance ditch maintenance issues in an attempt to alleviate concerns of private landowners, local land use authorities, ditch companies, irrigation and water conservancy districts, and other entities with ditch maintenance responsibilities regarding potential Endangered Species Act Section 9 violations involving the Preble's meadow jumping mouse (*Zapus hudsonius preblei*). The following Guidance will apply to **Calendar Year 2000** and is based upon the best available science the Service has to date. This Guidance applies only to man-made ditches and is not intended to permit or encourage removal of habitat along naturally-occurring streams and watercourses. This Guidance also applies only to activities which will result in either a temporary loss of habitat or limited scope long-term vegetation loss as identified in this letter.

It is the Service's belief that this Guidance is necessary not only to provide assurances to those who must maintain active ditches, but to assure that currently existing Preble's meadow jumping mouse habitat along ditches remains functionally intact and viable. Should limited ditch maintenance not be allowed to continue, we face the possibility that these ditches would no longer be capable of conveying water, and therefore any habitat dependent on this water would be subject to degradation over time, and would eventually be lost. Maintenance of these ditches, as discussed in this letter, is necessary to ensure continued conservation options for this species.

The Service is responsible for administering the Endangered Species Act of 1973 as amended (Act). This Guidance defines those ditch maintenance activities which do not reach the threshold of "take" as defined by Section 9 of the Act, and therefore do not require an Incidental Take Statement or permit pursuant to the pertinent language and provisions in Section 7, Section 10(a), or exemption through a special rule under section 4(d) of the Act. These activities include actions

which will have no effect on the species as well as those actions which may affect, but are not likely to adversely affect the species.

There are four main aspects that affect the take threshold for Preble's meadow jumping mouse on ditches: (1) seasonality of maintenance activities; (2) timing of activities for those actions that must be carried out during the season when the Preble's meadow jumping mouse is active above ground; (3) patch size, shape, location, and quality of the habitat to be disturbed or lost; and (4) the disposition of silt, debris, and vegetative material from cleaning, mowing, and other maintenance activities.

This Guidance applies to irrigation ditch maintenance in the following counties in Colorado: Arapahoe, Boulder, Broomfield, Douglas, Elbert, El Paso, Jefferson, Larimer, and Weld. Ditch maintenance activities in all other counties within the state of Colorado will have no impacts on the Preble's meadow jumping mouse.

NOTE: This Guidance applies to all ditches that may support Preble's meadow jumping mice within the above identified counties. This Guidance is unrelated to the Proposed 4(d) Special Rule for the Preble's meadow jumping mouse, which is currently not finalized.

Ditch maintenance activity should avoid, to the maximum extent practicable, impacts to shrub vegetation. For example, if it is possible to access the ditch for maintenance or repair activities from an area containing no shrubs, adjacent shrub vegetation must be avoided. At no time shall the activities identified herein, when taken cumulatively, exceed impacts to more than the maximum allowable disturbance area (as defined in this Guidance) during this Calendar Year.

**The Service considers the following activities to be of no effect or not likely to adversely affect the Preble's meadow jumping mouse (see Appendix A for definitions) if all suggested Best Management Practices (BMPs) (Appendix B) are followed:**

#### ACTIVITIES THAT CAN OCCUR BETWEEN NOW AND MAY 1, 2000

1. All necessary maintenance activities in areas of ditches that remove no shrub vegetation (for placement of spoil/debris/vegetative cuttings, see BMPs in Appendix B).
2. Mowing or cutting of shrub vegetation (including willow) that impacts less than the maximum allowable disturbance area, is 6 inches or more from the ground surface, and has no direct disturbance of the ground surface (for placement of spoil/debris/vegetative cuttings, see BMPs in Appendix B).

3. Burning: Except as defined in 4 below, all burning must occur prior to May 1 and effects will be defined by the type of habitat being addressed:
  - a. For shrub habitat, no more than the maximum allowable disturbance area (530 square feet) should be impacted (unless the patch can be described as unsuitable habitat as defined in Appendix A).
  - b. For non-shrub vegetation, burning will not be limited by maximum allowable disturbance area.

#### ACTIVITIES THAT CAN OCCUR ANY TIME DURING CALENDAR YEAR 2000

4. All maintenance activities conducted during daylight hours in areas within or along any lateral ditch which contain no shrub vegetation and are located within or across **active agricultural fields** (including mowing, cutting, plowing, burning, etc.).
5. Maintenance activities conducted during daylight hours in ditches which either contain no shrub vegetation, or an unsuitable patch of shrub vegetation (see Appendix A) and that are located more than one mile from any patch of suitable shrub habitat (along the same ditch or connected stream/waterway).
6. Necessary removal of vegetation, silt, and debris below the ordinary or normal flow line within a ditch (for placement of spoil/debris/vegetative cuttings, see BMPs in Appendix B) (**Figure 1**).
7. Any of the following activities that disturb or destroy less than the maximum allowable disturbance area (for placement of spoil/debris/vegetative cuttings, see BMPs in Appendix B):
  - a. Trash and debris removal.
  - b. Ditch bank repair - excavation/recontour of ditch banks above the normal flow line.
  - c. Headgate or diversion structure repairs.
  - d. Access road maintenance.
  - e. Repair/replacement of existing hard surfaces such as concrete-lined sections, pipes, culverts, or riprap.
  - f. Mowing or cutting of weeds or grasses (ie. non-shrub vegetation).
  - g. Herbicidal weed control. This section applies to the use of broad-leaf specific herbicides only. Non-target specific herbicides, such as "Round-Up", should not be used in these areas during this Calendar Year to avoid excessive impacts to potential

mouse forage. One exception to this rule is control of noxious weeds which are thought to have no forage value to the Preble's meadow jumping mouse. At this time, this will be limited to control of leafy spurge and diffuse knapweed. In all cases, broadcast or mechanical spraying must remain a distance of 30 feet or greater from any suitable shrub habitat or open water adjacent to suitable shrub habitat, and must control all overspray (ie. allow no "drift" of spray onto adjacent shrub habitat or into open water). Herbicidal weed control within 30 feet of suitable shrub habitat or open water adjacent to suitable shrub habitat must be target specific for individual plants.

The following activities continue to require a permit pursuant to the Endangered Species Act and therefore are **not** addressed by this Guidance:

1. Any activities that disturb or destroy shrub or foraging areas greater than the maximum allowable disturbance area (as defined in Appendix A).
2. Any activities that represent a permanent or long-term (ie. longer than one activity season) loss of habitat, including grubbing, excavation, and mechanical removal involving root material of trees or shrubs, that encompass larger than the maximum allowable disturbance area as defined in Appendix A.
2. Any activities that are otherwise unlawful - if an action requires other local, state or federal permits, this Guidance should not be construed to discount other existing authorities and the need for permits under those authorities.
3. Herbicidal weed control that is not broad-leaf specific.

If you have any questions or comments regarding this Guidance, or should questions arise regarding a specific ditch maintenance activity, please contact Kathleen Linder or Peter Plage of the Colorado Field Office at (303) 275-2370.

Sincerely,

*[SIGNED]*

LeRoy W. Carlson  
Colorado Field Supervisor

Attachments

cc: Reading File  
Project File

Reference: KAL\d\ditchgd5.wpd

## APPENDIX A

### DEFINITIONS

Shrub vegetation - Vegetation dominated by plants which generally have more than one woody stem which measures less than two inches in diameter. These plants are typically less than 10 feet in height at maturity, put on new growth each season, and have a bushy appearance. Examples of shrubs include willow, snowberry, wild plum, and alder.

Herbaceous vegetation - Vegetation dominated by plants without woody tissue/stems, including grasses and weeds, which typically live one season or less.

Take - Section 9 of the Act prohibits the "take" (e.g., harm, harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct) of Federally-listed wildlife species. "Harm" (i.e., "take") is further defined to include habitat modification or degradation where it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. "Harass" is defined by the Service as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.

No Effect Activities - Any action that does not cause measurable or identifiable harm to the mouse or its habitat.

Not Likely to Adversely Affect Activities - Those actions which may affect, but are not likely to adversely affect a species are described as "the appropriate conclusion when effects to listed species are expected to be discountable, insignificant, or completely beneficial". Service policy further defines discountable effects as those extremely unlikely to occur. Insignificant effects are related to the size of the impact and should never reach the scale where take, as defined above, occurs. Based on best judgement, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects, or expect discountable effects to occur.

Unsuitable Habitat or Uninhabitable shrub patch size - In the context of ditches, the Preble's meadow jumping mouse Science Team has given recommendations to the Service as to the definition of patches of shrub habitat which are too isolated and of insufficient size to be considered suitable habitat (see Science Team White Paper, Attached). The recommendation of the Science Team is that any patch of shrub along a ditch that is 0.25 acre or less, does not exceed 110 feet on any one side, and is greater than one mile measured linearly from a like or larger patch of suitable shrub habitat (measured along the same ditch or other connected waterway), would not constitute suitable habitat for the Preble's meadow jumping mouse (see Science Team White Paper, Attached). This definition is based upon data gathered at the U.S. Air Force Academy

and Rocky Flats Environmental Technology Site. The data indicates that the average minimum home range for a Preble's meadow jumping mouse is approximately 0.25 acre. The Science Team agreed that this minimum home range would represent the minimum area in which a mouse could survive for some period of time and that smaller patch sizes would be uninhabitable.

- **Maximum Allowable Disturbance Area:** This category describes the maximum area that can be disturbed or lost and still be considered "not likely to adversely affect" (ie. insignificant or discountable effects). This is further defined by the two following habitat types, based upon the life-history needs of the Preble's meadow jumping mouse:

1. **Shrub habitat:** As described above, a conservative estimate for the minimum amount of shrub habitat required for a Preble's meadow jumping mouse is 0.25 acre (ac). The Service feels that it is prudent to define a discountable and insignificant level of temporary habitat disturbance along a ditch to be no more than 5% of the average minimum home range for this species. Given a shrub habitat requirement of 0.25 ac, 5% is represented by an approximately 23 foot by 23 foot area (see Science Team White Paper, Attached). Therefore, regarding shrub habitat, no more than 5% of any 0.25 ac area can be disturbed, except as detailed above. However, this area must be further defined by whether the shrub habitat is relatively continuous for the 110 foot length of ditch being examined, or whether it is patchy in distribution. To this end, the Service recommends that the following measurements apply:
  - a. For relatively *homogenous or uniformly continuous* shrub vegetation, no more than 23 feet, measured linearly along the ditch, can be disturbed for any non-overlapping 110 foot length of ditch if the width of the shrub vegetation (measured perpendicular to the ditch) is 23 feet or less (**Figure 2**). If the width of the disturbance to shrub vegetation is greater than 23 feet, the linear length must be decreased accordingly, such that not more than 530 square feet is disturbed (**Figure 3**).
  - b. For a *patchy or discontinuous* distribution of shrub vegetation, no more than 5% of the total shrub habitat within a 110 foot linear measurement along a ditch can be disturbed or lost (**See Figure 4**).
2. **Foraging Habitat:** Based upon the best available scientific data the Service has at this time, Preble's meadow jumping mice use upland locations adjacent to shrub vegetation extensively for foraging. Therefore, mowing, cutting, and spraying of herbicides for weed control along ditches has the potential to impact these foraging areas. Again, the Service believes that it is prudent to allow a maximum 5% loss or disturbance of foraging habitat within any area required to support the mouse (see Science Team White Paper, Attached). In this case, this would be measured as no more than 5% of any upland area on both sides of the ditch, measured 300 feet perpendicularly from the centerline of a ditch or the exterior boundary of any

contiguous shrub habitat along a ditch, for any 110 foot linear distance of a ditch (**See Figure 5**). Given that foraging habitat is defined as occurring on both sides of the ditch, the maximum allowable disturbance area for this habitat type can occur all on one side of the ditch or be split between both sides of the ditch, as long as the cumulative disturbance for any non-overlapping 110 foot linear distance of ditch does not exceed 5%.



## APPENDIX B

### BEST MANAGEMENT PRACTICES

The following best management practices (BMPs) are required for ditch maintenance activities, as described in this Guidance, to qualify as either “no effect” activities, or “may affect, not likely to adversely affect” activities:

- Distance Measurements: All measurements of impacts, are based upon a 110 foot linear distance along a ditch, with no overlapping 110 foot segments (refer to example A, Figure 1).
- Disposition of Debris: This refers to the debris produced from silt and debris removal activities (ie. ditch cleaning), disposition of mulch after mowing/cutting, and other material produced from ditch maintenance activities. Placement of such debris should, to the maximum extent practicable, avoid shrub habitat, and at no time should disturb more than the maximum habitat patch size (of either foraging or shrub habitat), as defined above.
- Out-of-Season: The Service recommends that, to the maximum extent possible, all ditch maintenance activities be carried out during the Preble’s meadow jumping mouse hibernation season (November through April).
- Timing: The Service recommends that all maintenance activities that must be carried out during the Preble’s meadow jumping mouse breeding season (May through October) be conducted during daylight hours only.
- Access: Access to a ditch for maintenance activities should be from only one side and from a location that minimizes, to the maximum extent practicable, impacts to shrub habitat. Access can occur from both sides of a ditch, if there is **currently existing** access on both sides of a ditch and access would require no additional impacts to shrub habitat.

## **APPENDIX C**

### **FIGURES AND EXAMPLES**

*[UNAVAILABLE ELECTRONICALLY]*